

**REMARKS**

Applicants thank the Examiner for the thorough consideration given the present application. Claims 6, 7, and 9 remain under consideration. Claims 3 and 8 have been withdrawn from consideration. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

**Rejection Under 35 U.S.C. § 103**

Claim 9 stands rejected under 35 U.S.C. § 103 as being obvious over Ishikawa et al. (U.S. Patent No. 5,915,467) in view of Schuez et al. (U.S. Patent No. 5,775,411). Claims 6, 7 and 9 stand rejected under 35 U.S.C. § 103 as being obvious over Sasaki et al. (JP 10-300379) in view of Schuez et al. These rejections are respectfully traversed.

The Examiner states that Ishikawa et al. discloses all of the claimed limitations except the secondary grooves on the projected portions. The Examiner states that Sasaki et al. also discloses all of the claim limitations except the secondary grooves on the projected portions. In both rejections, the Examiner relies on Schuez et al. to show heat transfer pipe having a plurality of grooves and projection portions, with a plurality of secondary grooves to improve heat exchange. The Examiner feels it would have been obvious to use the secondary

grooves as shown in Schuez et al. in both the Ishikawa et al. and Sasaki et al. devices.

The Examiner has previously argued that although there is a region between the two sets of rolls in both of the primary references that the open ended claims do not preclude a reading of the claims on these systems. Thus, the Examiner feels that extensions or imaginary lines of the rows of grooves intersect in V-shaped patterns.

With respect to the Schuez et al. reference, the Examiner argues that the fine grooves extend discontinuously from one side to the other side of the projected portion.

Applicants submit that the amended claims are not obvious over any of these references or any combination thereof.

Claim 6 describes a method for manufacturing a heat transfer pipe with a combination of steps, including marking a plurality of rows of grooves including a first row of parallel grooves alternating with a second row of parallel grooves where the first and second rows are adjacent, the grooves in the first row and the grooves in the second row intersecting to form regions of V-shaped patterns and the regions serially repeating along a line on the inner surface, the first and second rows being different in width, marking the secondary grooves by using a second marking roll, the secondary grooves having a small width and continuously extending on one side surface of the projected portions to the other side surface, and forming a flat plate-like heat-transfer pipe material into a cylindrical pipe

using a roll forming device. Applicants submit that the combination of steps of this claim are not obvious over the references.

In particular, claim 6 now makes it clear that the two rows of grooves are adjacent. Furthermore, the groove in the first row and the grooves in the second row are now said to intersect to form regions of V-shaped patterns. Furthermore, the secondary grooves now state that they continuously extend from one side surface to the other.

In regard to the Schuez et al. reference, the Examiner has already indicated that the secondary grooves shown there only extend discontinuously. Accordingly, Applicants submit that this reference does not show that the secondary grooves extend continuously.

In regard to both primary references, there is no showing that the two rows are adjacent or that the grooves in the two rows intersect to form V-shaped patterns. Thus, the Examiner's previous arguments that the grooves could extend through imaginary lines to form the V-shaped patterns does not apply to amended claim 6 since the grooves are now said to intersect to form regions of V-shaped patterns which is not shown in the reference and also the two rows are said to be adjacent which is not shown in the reference. Accordingly, Applicant submit that claim 6 is allowable.

Claim 7 describes a device for manufacturing heat transfer pipe which corresponds to method claim 6. Likewise, claim 9 describes the pipe itself and corresponds to method claim 6 and apparatus claim 7. Claim 7 now describes a

device for manufacture including a combination of elements which include the three limitations discussed above in regard to claim 6. Likewise, claim 9 describes a pipe having a combination of elements, including the three limitations discussed above in regard to claim 6. Applicants submit that claims 7 and 9 are also allowable over the references for reasons recited above in claim 6.

Since claims 6, 7 and 9 are not obvious over the references cited, Applicants submit that these rejections are overcome and that the application is now in allowable form. Accordingly, removal of the outstanding rejections and allowance of the application are respectfully requested.

**No Prosecution History Estoppel**

Claims 6, 7, and 9 are hereby presented in independent form. No prosecution history estoppel would apply to the interpretation of the limitations set forth in these claims, in view of the fact that the subject matter has been continuously presented since the original filing date of the present application.

**CONCLUSION**

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination. In view of this, reconsideration of the rejections and allowance of all the claims are respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert F.

Office Action dated March 25, 2005  
Reply dated April 29, 2005  
Page 11 of 11

Appl. No. 09/719,138  
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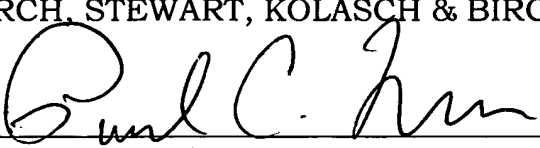
Gnuse (Reg. No. 27,295) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachments